

CLAIMS

1. Method of manipulating heavier than air gas in a chamber, comprising

- successive opening and closing of the chamber, at the top thereof,

- introduction of the said heavy gas into the chamber in the closed position thereof and stoppage of said introduction in the open position of the chamber, and

- establishment of a negative pressure periphery at the top of the chamber with suction of heavy gas escaping through the top of the chamber to a confined enclosure.

2. Method according to Claim 1, characterised in that the opening of the chamber controls a stoppage of the said introduction and the closure of the chamber allows introduction of the said heavy gas into the chamber.

3. Method according to Claim 1, characterised in that a stoppage of the said introduction allows an opening of the chamber and a closure of the chamber allows an admission of the said heavy gas into the chamber.

4. Method according to one of Claims 1 to 3, characterised in that, after an initial closure of the chamber, the introduction of heavy gas effects a saturation of the chamber with this gas and in that, after each following closure of the said succession of closures and openings from the top, it comprises an

additional introduction of heavy gas into the closed chamber.

5. Method according to one of Claims 1 to 4, characterised in that the establishment of the negative pressure is continued throughout the process.

6. Method according to one of Claims 1 to 5, characterised in that it comprises, at the bottom of the chamber, around it, a recovery of heavy gas flowing along the chamber from top to bottom.

7. Method according to one of Claims 1 to 6, characterised in that the heavy gas is a narcotic gas.

8. Apparatus for manipulating heavier than air gas, comprising

- a chamber (1) having a closable cavity (2),
- a source of heavy gas (4) which can be in communication with the chamber and allow introduction of the heavy gas into its cavity, and
- a means (6, 7) of controlling the said communication between the source (4) and the cavity (2) of the chamber,

characterised in that the chamber (1) comprises an upward opening, and closure means (3) able to be moved between a closed position in which they close off the said upward opening and an open position in which the latter is left clear,

in that the said control means (6, 7) are capable of passing from a stopped state to a state of leaving the said communication clear and vice versa, the said control means (6, 7) being in the stopped state when the above mentioned closure means (3) are in an open position, and the said closure means (3) being in a closed position when the said control means (6, 7) are in their above mentioned clear state, and

in that it also comprises a negative pressure source (35) and means of establishing a negative pressure (17) in a peripheral area at the top of the chamber, which are supplied by the negative pressure source and which suck heavy gas escaping from the chamber (1) through the top into a confined enclosure.

9. Manipulation apparatus according to Claim 8, characterised in that it also comprises, in an external peripheral area at the bottom of the chamber (1), means (11) of recovering heavy gas flowing along the chamber from top to bottom.

10. Manipulation apparatus according to one or other of Claims 8 and 9, characterised in that the means of establishing a negative pressure function continuously.

11. Manipulation apparatus according to any one of Claims 8 to 10, characterised in that the said control means comprise a stop valve (6) arranged in a pipe (5) connecting the heavy gas source (4) and the cavity (2) of the chamber, and a control element (7) for the valve which is locked mechanically in the above mentioned stopped state when the above mentioned closure means

(3) are in the open position and which mechanically locks the closure means (3) in the closed position when it is in a release state.

12. Manipulation apparatus according to any one of Claims 8 to 10, characterised in that the said control means comprise a stop valve (6) arranged in a pipe (5) connecting the heavy gas source (4) and the cavity (2) of the chamber, and a control member which automatically locks the valve in the stopped state when it detects an output signal from the closure means outside their closure position and which automatically locks the closure means in the closed position when the valve is in a release state.

13. Manipulation apparatus according to any one of Claims 8 to 10, characterised in that the said control means comprise a stop valve (6) arranged in a pipe (5) connecting the heavy gas source (4) and the cavity (2) of the chamber, and a control member which automatically locks the valve in the stopped state when it detects an output signal from a closure means outside their closure position and which is capable of controlling the valve in the release state when the closure means are in the closed position.

14. Manipulation apparatus according to any one of Claims 8 to 13, characterised in that the closure means consist of a cover (3) sliding in a runner (15) provided at the upward opening of the chamber (1).

15. Manipulation apparatus according to Claim 1, characterised in that the means of establishing a

negative pressure comprise a frame (17) formed by a hollow profile which is supported by the chamber at the periphery of its upward opening and which, on three sides (21-23), 23), overhangs part of the cavity (2) of the chamber and therefore the cover (3) in the closed position, whilst, on a fourth side (25), it is subjacent to a cover in the closed position, and in that the said hollow profiled section is provided, facing the cover in the closed position, with suction openings (24, 28), whilst it is in communication with the said source of negative pressure through an appropriate pipe (30).

16. Manipulation apparatus according to any one of Claims 9 to 15, characterised in that the said recovery means comprise a trough (18) open upwards and a support plate (8) for the chamber (1) which is supported essentially in the trough at a distance therefrom.

17. Manipulation apparatus according to Claim 16, characterised in that the trough has negative pressure means which act below the support plate and suck the heavy gas recovered by the trough.

18. Apparatus according to one of Claims 16 and 17, characterised in that it also comprises, alongside the trough (11) provided with a support plate (8) for the chamber (1), at least one supplementary trough (36) each provided with a support plate (37) for another chamber and/or for a body carrying heavier than air gas.